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The inferences drawn by the author from these facts, and which he corroborates by other evidence, are that a large area must have been uplifted, and that its rise was effected by a slight change in the convex form of the fluid matter on which the crust of the earth rests; and therefore that the fluidity of the former is sufficiently perfect to allow of the atoms moving in obedience to the law of gravitation, and consequently, of the operation of that law modified by the centrifugal force: and lastly, that even the disturbing forces do not tend to give to the earth a figure widely different from that of a spheroid in equilibrium.

## March 7, 1839.

The MARQUIS of NORTHAMPTON, President, in the Chair.

George Godwin, jun. Esq., and George Gulliver, Esq., were balloted for, and duly elected into the Society.

A paper was read, entitled, "On the Male Organs of some of the Cartilaginous Fishes." By John Davy, M.D., F.R.S., Assistant Inspector of Army Hospitals.

In this paper, which is wholly occupied with anatomical details, the author refers to his paper on the Torpedo, which was published in the Philosophical Transactions for 1834; and also to Müller's work "De Glandularum secernentium structura penitiori," whose descriptions and views are not in accordance with those given in that paper. In the present memoir he adduces evidence of the accuracy of his former statement, chiefly founded on microscopical observations, and offers some conjectures respecting the functions of several organs found in cartilaginous fishes; but does not pretend to attach undue importance to his speculations.

A paper was also read, entitled, "Researches in Physical Geology.—Third Series. On the Phenomena of Precession and Nutation, assuming the interior of the earth to be a heterogeneous fluid." By W. Hopkins, Esq., M.A., F.R.S., &c.

Having, in his last memoir, completed the investigation of the amount of precession and nutation, on the hypothesis of the earth's consisting of a homogeneous fluid mass, contained in a homogeneous solid shell, the author here extends the inquiry to the case in which both the interior fluid and external shell are considered as heterogeneous. After giving the details of his analytical investigation, he remarks, that he commenced the inquiry in the expectation that the solution of this problem would lead to results different from those previously obtained on the hypothesis of the earth's entire solidity. This expectation was founded on the great difference existing between the direct action of a force on a solid, and that on a fluid mass, in its tendency to produce a rotatory motion; for, in fact, the disturbing forces of the sun and moon do not tend to produce directly